

#### Example 2: Deprotection with ammonium hydroxide

A support bound 25-mer DMT-on oligonucleotide was synthesized using universal solid support 4 (200 nmol, 10 mg), phosphoramidite chemistry and conventional protective groups by standard techniques known to those skilled in the art. To the 25-mer bound CPG in a 2 mL vial was added 1 mL of 30% ammonium hydroxide. The vial was sealed and heated at 80°C for 60 mn. The supernatant solution was separated from the CPG support, which was washed with concentrated aq. ammonium hydroxide and discarded. The combined ammonium hydroxide solutions were combined and analyzed by HPLC. The fully deprotected DMT-on 25-mer oligonucleotide was found to be identical to samples prepared from conventional commercial supports. HPLC analyses were carried out using a OPH® RP-L21 column (Organicphase Inc., 3.0 x 75 mm, particle size 5 µm). Sample volume was 10 µL using a flow rate of 0.75 mL/min. The column was equilibrated in buffer A (0.1M TEAA, pH 7.0) and eluted in a gradient of buffer B (H<sub>2</sub>O/acetonitrile, 1:3, v/v).

### Claims

What we claim is:

1. A universal solid support comprising a polysubstituted-1,2-dihydroxybenzene where one of the hydroxyl groups is covalently attached to the polymer carrier through a base labile, covalent linkage and the other hydroxyl group is protected by an acid labile group.
2. A compound of claim 1, wherein said polysubstituted-1,2-dihydroxybenzene is a di-, tri-, or tetra-substituted catechol defined by the formula 3-(R1),4-(R2),5-(R3),6-(R4)-1,2-dihydroxybenzene.
3. A compound of claim 2, wherein R1 and R4 are selected from the group consisting of hydrogen, lower alkyl, and alkoxy and wherein R2 and R3 are selected from the group consisting of hydrogen, lower alkyl, alkoxy and halogen.

4. A compound of claim 3, wherein R1 and R4 are selected from the group consisting of methoxy, ethoxy, propoxy, butoxy and biphenoxy and wherein R2 and R3 are selected from the group consisting of hydrogen, methyl, ethyl, propyl, methoxy and ethoxy.
5. A compound of claim 4, wherein R1 and R4 are selected from the group consisting of methoxy and ethoxy and wherein R2 and R3 are selected from the group consisting of hydrogen and methyl.
6. A compound of claim 1, wherein the said acid labile group is selected from the group consisting of -silyl(alkyl)<sub>3</sub>.
7. A compound of claim 6, wherein the said alkyl is methyl.
8. A compound of claim 1, wherein the said polymer carrier is controlled porous glass (CPG).